

Amendments to the Drawings:

Applicant has amended FIG. 1 to correct a typographical error. FIG. 1 has been amended to replace reference numeral 12 with reference numeral 15. Support for this amendment may be found, for example, in paragraph 31 of the specification. Therefore, Applicant respectfully requests that the Examiner to enter this amendment to the drawing.

Attachment: Replacement Sheet

Annotated Sheet

REMARKS/ARGUMENTS

In the Office Action mailed January 27, 2006, claims 28-45 are pending. Claims 28-34 stand rejected and claims 34-45 are withdrawn from consideration. Applicant has thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action.

Applicant thanks the Examiner for the time spent conducting a personal interview with Applicant's representative, Annette Kwok, on April 26, 2006. The Examiner and Ms. Kwok discussed various objections and rejections cited in the Office Action. Ms. Kwok noted that a typographical error would be corrected on FIG. 1. Furthermore, the Examiner stated that the term "near" is not defined in the specification and appropriate correction should be made to overcome the rejection. Ms. Kwok pointed to the specification showing that the word "near" is defined as a location within the exchanger where the PCM would be the warmest.

The Examiner and Ms. Kwok further discussed the applicability of the Mantegazza et al. reference to the claims. The Examiner noted that the phase change material is located solely in the air/refrigerant heat exchanger in the present invention; whereas the phase change material is everywhere in the Mantegazza system. The Examiner suggested to Ms. Kwok to add new claims corresponding to the embodiment shown in FIG. 2. Lastly, the Examiner also proposed using negative limitation, "with no phase change material located in or around the air/air heat exchanger," in the first independent claim to overcome the Mantegazza reference.

Claims 28-34 are amended. New claims 46-58 has been added. Applicant submits that the new claims are related to the first species, which is the elected species of the embodiment of FIG. 2. Therefore, Applicant respectfully requests that claims 46-58 be examined along with

claims 28-34. Thus, claims 28-34 and 46-58 are pending in the application and are believed to be patentable over the cited references.

Claim 28 is amended to clarify the invention. Support for this claim can be found in the specification, at least, in paragraph 34 and FIG. 2. Furthermore, the preambles of claims 28-34 have been amended to reflect a "heat exchanger system." Reconsideration and withdrawal of the outstanding rejections are respectfully requested in view of the following remarks.

AMENDMENT TO DRAWING

Applicant has amended FIG. 1 to correct a typographical error. FIG. 1 has been amended to replace reference numeral 12 with reference numeral 15. Support for this amendment may be found, for example, in paragraph 31 of the specification. Therefore, Applicant respectfully requests that the Examiner to enter this amendment to the drawing.

SPECIFICATION

The Examiner objected to the abstract because it does not avoid using words or phrases which can be implied. Applicant has made amendments to the specification in line with the Examiner's requests. Applicant respectfully requests that the objection to the specification be removed and the amendments be entered.

CLAIM REJECTIONS – 35 U.S.C. §112

The Examiner rejected claim 32 under 35 U.S.C. §112, second paragraph, as being indefinite.

Applicant has amended claim 32 to obviate this rejection. Therefore, withdrawal of this rejection is respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. §102

The Examiner rejected claims 28-32 under 35 U.S.C. §102(b) as being anticipated by Mantegazza *et al.*, U.S. Patent No. 5,228,504 (hereinafter referred to as “Mantegazza”). Applicant respectfully traverses this rejection.

In light of the following remarks, Applicant respectfully submits that these claims are allowable. Without conceding the propriety of the rejections, claim 28 has been amended according to the Examiner’s suggestion. Support for these amendments can be found, at least, in paragraph 34 and FIG. 2 of Applicant’s specification.

For anticipation under 35 U.S.C. §102, the reference must teach every aspect of the claimed invention either explicitly or implicitly. Any feature not directly taught must be inherently present. M.P.E.P. §706.02(a).

Mantegazza discloses a tube and fin heat exchanger having two adjacent fluid circuits through which compressed air and a refrigerant fluid flow so as to be in a heat exchange relationship with respect to one another. (See Abstract.)

The Examiner stated that Mantegazza discloses an air/refrigerant heat exchange system essentially as claimed, for example, an air/air heat exchanger (including tubes A and B connected via **fins or stacked plates H**; air/refrigerant heat exchanger (including tubes A and D connected

via **fins or stacked plates H**); a phase change material G disposed between the tubes A, B, and D and also between the stacked plates or fins H and contained within jacket P.

Mantegazza is significantly different from the present invention. First of all, Mantegazza employs a fins/tube system (see col. 1, lines 62-63); whereas, the current invention uses a brazed plate heat exchanger system (see, for example, paragraph 33). A fins/tube system uses circuit tubes with series of parallel fins placed at right angles with respect to the circuit tubes. (See col. 1, lines 66-68.) In comparison, the brazed plate heat exchanger comprises a series of stacked plates, with gaps between the plates and without any tubes in between. (See paragraph 33 and 34). Furthermore, in the brazed plate heat exchanger, refrigerant flows between the brazed plates; in a fins/tube system, refrigerant flows in the tubes not directly between the fins. Therefore, Applicant respectfully disagrees with the Examiner's characterization of the two heat exchanger systems that the fins (**H**) in Mantegazza can be fins or stacked plates.

Furthermore, Mantegazza comprises an air/air heat exchanger (tubes A and B) and an air/refrigerant heat exchanger (tubes A and D) that are one integrated system contained by a thermal insulating material (P), with a mass of material (G) distributed throughout the entire system. In comparison, as illustrated, for example, in FIG. 2 of Applicant's specification, a heat exchanger 120 can be characterized as having two units, an air/air exchanger 130 and an air/refrigerant heat exchanger 140. The two units are directly adjacent to each other and connected by a connecting tube.

In addition, the mass of material (G) in Mantegazza facilitates the cooling of both the air/air heat exchanger and the air/refrigerant heat exchanger. Unlike Mantegazza, in the present invention, "a phase change material [is] contained within a first gap between one of said stacked plates and another of said stacked plates." (See, for example, claim 28.) Therefore, unlike

Mantegazza, the phase change material of the present invention is not found in the air/air heat exchange unit.

It is respectfully submitted that Mantegazza does not teach or suggest, *inter alia*, a heat exchanger system having, at least, “a phase change material contained within a first gap between one of said stacked plates and another of said stacked plates, and with no phase change material located in or around the air/air heat exchanger,” as recited in independent claim 28.

Since each and every element, as set forth in the claim, is not found either expressly or inherently describe as required by the M.P.E.P., Mantegazza cannot be said to anticipate the present invention, as recited in claim 28. Hence, withdrawal of the rejection is respectfully requested.

Claims 30-32 depend from independent claim 28 and are believed to be patentable over the cited prior art for at least the same reason as independent claim 28.

CLAIM REJECTIONS – 35 U.S.C. §103

The Examiner rejected claims 33 and 34 under 35 U.S.C. §103(a) as being unpatentable over Mantegazza in view of Galus *et al.*, U.S. Patent No. 6,085,529 (hereinafter referred to as “Galus”). Applicant respectfully traverses this rejection.

In order for a §103 rejection to be proper, each element of the claim invention must be taught or suggested in the combination of the references. For the reasons discussed above in connection with the §102 rejection of independent claim 28, from which claims 33 and 34 depend directly or indirectly, Mantegazza is deficient in, at least, that it does not teach a phase change material contained within a first gap and no phase change material located in or around the air/air heat exchanger. Assuming, *arguendo*, that the combination of Mantegazza and Galus is

proper, such a combination would not overcome Mantegazza's deficiency. For at least this reason, Applicant respectfully submits that claims 33 and 34 are patentable over the combination of Mantegazza and Galus and requests that this §103 rejection be withdrawn.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests that all the objections and rejections be withdrawn and that the application be allowed. If, for any reason, the Examiner disagrees, please call Applicant's undersigned representative at 202-861-1683 in an effort to resolve any matter still outstanding before issuing another action. Applicant's representative is confident that any issue which might remain can readily be worked out by telephone.

In the event this paper is not timely filed, Applicant petitions for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036 with reference to our Docket No. 87245.1680.

Respectfully submitted,
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FIG. 1

